DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Flex Membrane International
2670 Leiscz's Bridge Road, Suite 400
Leesport, PA. 19533

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.
This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Flex TPO Single Ply Roofing System over Concrete Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of pages 1 through 13.
The submitted documentation was reviewed by Alex Tigera.

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply Roofing
Material:	TPO
Deck Type:	Concrete
Maximum Design Pressure:	-390 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Flex TPO II	Various	ASTM D 6878 TAS 131	Thermoplastic olefin reinforced membrane.
Flex TPO II FB	Various	ASTM D 6878 TAS 131	Thermoplastic olefin reinforced, fleece-backed membrane.
Flex EG TPO Cut Edge Sealant	1 quart squeeze tube	Proprietary	Solvent based sealant for TPO cut edges.
Pliobond® 2825 Bonding Adhesive	5 gallons	Proprietary	Adhesive for fully adhered systems and membrane flashing.
Flex EG WB 181 TPO Bonding Adhesive		Proprietary	Water-based rubberized adhesive for fully adhered systems and membrane flashing.
LA505 Bonding Adhesive for TPO Membranes	5 gallon pails	Proprietary	A contact type bonding adhesive for TPO single ply roofing membranes and flashings.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Flex EG Polyiso	Polyisocyanurate foam insulation	GAF
Securock® Gypsum-Fiber Roof Board	Gypsum roof board	United States Gypsum Corporation

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	#14 Roofgrip	Insulation fastener for steel, wood & concrete decks.		OMG, Inc.
2.	#15 Standard Roofgrip	AZ55 Galvalume coated barber steel plate used with fastener.	2-3/8" dia.	OMG, Inc.
3.	OMG 2" Barbed Plate	AZ55 Galvalume coated barbed steel plate used with fastener.	2" dia.	OMG, Inc.
4.	OMG 2-3/4" Super XHD Barbed Plates	AZ55 Galvalume coated double barbed steel plate used with fastener.	2-3/4" dia.	OMG, Inc.
5.	OMG 3" Galvalume Steel Plate	Galvalume® coated steel 3" Square	3"	OMG Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Underwriters Laboratories	File R1306	UL790	05/20/99
	09CA55838	Physical Properties	12/04/10
Exterior Research and Design, LLC.	01881.09.03-2	TAS 114	09/09/03
Atlantic &Caribbean Roof Consulting, LLC	07-027	TAS -114	05/04/07
	06-035		10/18/06
	11-002		03/21/11
	11-003		03/21/11
	11-012		04/06/11
	11-013		04/06/11
	11-014		04/06/11
	11-041		09/05/11
	11-047		09/09/11
Factory Mutual Research Corp.	3003617	FM 4470	12/20/99
	3013861	FM 4470	03/28/03
	3015578		12/02/03
	3012721		02/11/04
	3015578		05/12/04
	3015029		02/19/04
	3024051		03/28/06
	3013788		01/10/03
	3011140		08/14/01
	3023458		07/18/06
	3031350		09/27/07
	3036141		08/10/09
	3041685		03/24/11
	3038318		12/10/10
	3036141		08/10/09
	3014692		08/05/03
	3032856		11/24/08
	3041535		06/08/11
	3041769		05/26/11
PRI Construction Materials Technologies LLC	GAF-289-02-01	ASTM D6878	09/07/11
	GAF-290-02-01	ASTM D6878	9/21/11

APPROVED ASSEMBLIES:

Membrane Type: TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi structural concrete

System Type A(1): Membrane adhered to adhered insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: (Optional) Any UL or FMRC approved vapor retarder may be installed over the deck per manufactures specifications.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Flex EG Polyiso Minimum 1.5" thick	**N/A**	**N/A**

Note: All insulation shall be adhered as specified in one of the options below. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Insulation Option #1: One or more layers of minimum 1.5" thick insulation in OlyBond® at 1 gal./sq. full coverage.

Insulation Option #2: One or more layers of minimum 1.5". thick insulation in OlyBond 500® or OlyBond 500® Green in ¾" to 1" wide ribbons spaced 12".o.c.

Membrane: Flex TPO II is adhered using Flex EG WB 181 TPO Bonding Adhesive as described below.

The Flex EG WB 181 TPO Bonding Adhesive is roller applied to the underside of the membrane and to the substrate at a combined 0.84 gal./sq. (0.34 l/m2). Three fourths of the adhesive was applied to the substrate and one fourth is applied to the bottom of the roof cover. The adhesive is allowed to become tacky to touch and the roof cover is applied to the substrate and broomed.

The laps are heat welded a minimum 1-1/2" width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding. The membrane is then rolled with a water filled roller weighing a minimum of 250 lbs.

Maximum Design Pressure: -272.5 psf; (See General Limitation #9)

Membrane Type: TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi structural concrete

System Type A(2): Membrane adhered to adhered insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: (Optional) Any UL or FMRC approved vapor retarder may be installed over the deck per manufactures specifications.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Flex EG Polyiso Minimum 1.5" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer (Matrix™ 307 Premium Asphalt Primer) and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Flex TPO II is adhered using Flex EG WB 181 TPO Bonding Adhesive as described below.

The Flex EG WB 181 TPO Bonding Adhesive is roller applied to the underside of the membrane and to the substrate at a combined 0.84 gal./sq. (0.34 l/m2). Three fourths of the adhesive was applied to the substrate and one fourth is applied to the bottom of the roof cover. The adhesive is allowed to become tacky to touch and the roof cover is applied to the substrate and broomed.

The laps are heat welded a minimum 1-1/2" width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding. The membrane is then rolled with a water filled roller weighing a minimum of 250 lbs.

Maximum Design Pressure: -202.5 psf; (See General Limitation #9)

Membrane Type: TPO

Deck Type 3: Concrete, Insulated

Deck Description: 3,000 psi Structural Concrete

System Type A(3): Membrane adhered to adhered insulation

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers each of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Flex EG Polyiso Minimum 1.5" thick	**N/A**	**N/A**

Note: Insulation is adhered to the deck using Olybond 500® or Olybond 500® Green applied in 1" wide beads spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Flex TPO II FB adhered with Flex EG WB 181 TPO Bonding Adhesive applied to the substrate at a rate of 0.84 gal./ sq. The laps are heat welded a minimum 1-1/2" width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding. The membrane is then rolled with a water filled roller weighing a minimum of 250 lbs.

Maximum Design Pressure: -225 psf; (See General limitation #9)

Membrane Type: TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi structural concrete

System Type D(1): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Flex EG Polyiso Minimum 1" thick	**N/A**	**N/A**

Note: Insulation is preliminary attached, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. *Or,* all insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment

Vapor Retarder: (Optional) Any UL or FMRC approved vapor retarder may be installed over the deck per manufactures specifications.

Membrane: Flex TPO II attached to the deck through the preliminary attached insulation as specified below.

Fastening #1: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2-3/4" Super XHD Barbed Plate spaced 6" o.c. within minimum 5" wide laps. Laps are spaced at maximum 114.5" o.c. and sealed with a minimum 1.5" wide heat weld.
(Maximum Design Pressure –45 psf; See General Limitation #7)

Fastening #2: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2-3/4" Super XHD Barbed Plate spaced 6" o.c. within minimum 5" wide laps. Laps are spaced at maximum 114" o.c. and sealed with a minimum 5" wide heat weld.
(Maximum Design Pressure –67.5 psf; See General Limitation #7)

Maximum Design Pressure: See Fastening Options Above

Membrane Type: TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi structural concrete

System Type D(2): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

Vapor Retarder: (Optional) Any UL or FMRC approved vapor retarder may be installed over the deck per manufactures specifications.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Flex EG Polyiso Minimum 1.5" thick	**N/A**	**N/A**

Note: Insulation is preliminary attached, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. *Or,* all insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Flex TPO II attached through the preliminary attached insulation as specified below.

Fastening #1: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2-3/4" Super XHD Barbed Plate spaced 12" o.c. within minimum 5.5" wide laps. Laps are spaced at maximum 114.5" o.c. and sealed with a minimum 1.5" wide heat weld.
(Maximum Design Pressure –45 psf; See General Limitation #7)

Fastening #2: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2-3/4" Super XHD Barbed Plate spaced 6" o.c. within minimum 6" wide laps. Laps are spaced at maximum 112.5" o.c. and sealed with a minimum 1 5/8" wide heat weld.
(Maximum Design Pressure –52.5 psf; See General Limitation #7)

Fastening #3: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2-3/4" Super XHD Barbed Plate spaced 6" o.c. within minimum 5" wide laps. Laps are spaced at maximum 114.5" o.c. and sealed with a minimum 1.6" wide heat weld.
(Maximum Design Pressure –52.5 psf; See General Limitation #7)

Fastening #4: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2-3/4" Super XHD Barbed Plate or Drill-Tec™ HD Plates spaced 6" o.c. within minimum 5" wide laps. Laps are spaced at maximum 115" o.c. and sealed with a minimum 1.5" wide heat weld.
(Maximum Design Pressure –52.5 psf; See General Limitation #7)

Fastening #5: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2-3/4" Super XHD Barbed Plate spaced 6" o.c. within minimum 6" wide laps. Laps are spaced at maximum 114" o.c. and sealed with a minimum 1.5" wide heat weld. ***(Maximum Design Pressure –60 psf; See General Limitation #7)***

Fastening #6: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2" Barbed Plate spaced 6" o.c. within minimum 5" wide laps. Laps are spaced at maximum 91.5" o.c. and sealed with a minimum 1.75" wide heat weld.
(Maximum Design Pressure –60 psf; See General Limitation #7)

Maximum Design Pressure: See Fastening Options Above

Membrane Type: TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi structural concrete.

System Type D(3): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulation.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Flex EG Polyiso, EnergyGuard™ RM Polyiso Insulation Minimum 1.5" thick	**N/A**	**N/A**

Note: Insulation is preliminary attached, at a minimum application rate of 5 #14 Standard Roofgrip and 3" metal insulation plates per 4x4 board. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Flex TPO II – 120" wide attached through the preliminary attached insulation as specified below.

Fastening #1: Membrane is mechanically attached using #14 Standard Roofgrip and OMG 2" Barbed Plate spaced 6" o.c. at the 6" overlap and sealed with a minimum 1.5" wide heat weld. The laps are heat welded a minimum 1-1/2" width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding. The membrane is then rolled with a water filled roller weighing a minimum of 250 lbs.

Maximum Design Pressure: -90 psf (See General Limitation # 7)

Membrane Type: TPO

Deck Type 3I: Concrete, Non-Insulated

Deck Description: 2500 psi structural concrete

System Type F(1): Membrane adhered directly to deck.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: Flex TPO II FB adhered to structural concrete deck.

Fastening: Membrane is fully adhered to a structural concrete deck with EverGuard® WB181Bonding Adhesive roller applied to the concrete at the rate of 0.84 gallons per square or (0.34 Liter/meter squared). Then the fleece back membrane is rolled into the wet adhesive. The laps are heat welded a minimum 1-1/2" width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding. The membrane is then rolled with a water filled roller weighing a minimum of 250 lbs.

Maximum Design Pressure: -300 psf; (See General Limitation #9)

Membrane Type: TPO

Deck Type 3I: Concrete, Non-Insulated

Deck Description: 2500 psi structural concrete

System Type F(2): Membrane adhered directly to deck.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer (Matrix™ 307 Premium Asphalt Primer) and allowed to dry prior to application of membrane.

Membrane: One ply of Flex TPO II FB fully adhered in approved asphalt at an application rate of 20-40 lbs./sq. The laps are heat welded a minimum 1-1/2" width for automatic machine welding. Weld width shall be a minimum 2" in width for hand welding. The membrane is then rolled with a water filled roller weighing a minimum of 250 lbs.

Maximum Design Pressure: -390 psf; (See General Limitation #9)

CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117 and/or RAS 137; calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6".break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE